

In the Claims:

Claims 1 – 14 (Cancelled)

15. (Currently amended) A ~~composition~~ solution for fabricating a composite membrane used for coating a substrate, the ~~composition~~ solution comprising, based on the final weight of the ~~composition~~ solution:

a water-insoluble polymer, in an amount of from about 5% to about 30%; and

a water-insoluble wax, in an amount of from about 0.1% to about 10%, having a melting point of from about 45°C to about 120°C, in a solvent; and

~~in a solvent.~~

wherein the solution is non-aqueous.

16. (Currently amended) The ~~composition~~ solution of claim 15, wherein the ~~composition~~ solution further comprises an ingredient selected from the group consisting of stearic acid, palmitic acid and stearyl alcohol, in an amount of from about 0.05% to about 5%.

17. (Currently amended) The ~~composition~~ solution of claim 15, wherein the composite membrane is fabricated by phase inversion technique.

18. (Currently amended) The ~~composition~~ solution of claim 15, wherein the water-insoluble polymer is in an amount of from about ~~of from about~~ 8% to about 25%.

19. (Currently amended) The ~~composition~~ solution of claim 15, wherein the water-insoluble wax is in an amount of from about 0.2% to about 5%, having a melting point of from about 50°C to about 80°C.

20. (Currently amended) The ~~composition~~ solution of claim 15, wherein the water-insoluble polymer is selected from the group consisting of cellulose acetate butyrate, cellulose acetate propionate, cellulose acetate and ethylcellulose.

21. (Currently amended) The ~~composition~~ solution of claim 15, wherein the water-insoluble polymer is selected from the group consisting of polysulfone and polyacrylonitrile-co-butadiene-co-styrene.

22. (Currently amended) The ~~composition~~ solution of claim 15, wherein the water-insoluble wax is selected from the group consisting of beeswax, carnauba wax and cadelilla wax.

23. (Cancelled)

24. (Currently amended) The ~~composition~~ solution of claim 15, wherein the solvent is selected from the group consisting of dimethylformamide, dimethylacetamide and ethanol.

25. (Currently amended) The ~~composition~~ solution of claim 15, wherein the solvent is selected from the group consisting of acetone, butanone, chloroform, benzene, toluene and acetic acid.

26. (Currently amended) The ~~composition~~ solution of claim 15, wherein the solvent is phosphoric acid.

27. (Currently amended) A method for fabricating a composite membrane on a surface of a substrate, comprising:

dissolving a mixture of a water-insoluble polymer, and a water-insoluble ~~polymer~~ wax in an organic solvent to give a solution;

removing air bubbles from the solution to give a final solution;

casting the final solution onto the surface of the substrate; and

curing the surface of the substrate having the final solution thereon to give a composite membrane on the surface of the substrate.

28. (Currently amended) The method of claim 27, wherein the substrate is selected from the group consisting of a starch based food package material, a protein based food package ~~materials~~ material, a natural fabric, a synthetic fabric, and a paper product.

29. (Currently amended) A ~~composition~~ solution for fabricating a composite membrane used for coating a substrate, the ~~composition~~ solution comprising, based on the final weight of the ~~composition~~ solution:

from about 3% to about 7% of beeswax;

from about 10% to about 14% of cellulose acetate butyrate;

from about 0.6% to about 1% of 1-octadecanol; and

from about 80% to about 84% of butanone.

30. (Currently amended) The ~~composition~~ solution of claim 29, wherein the substrate is selected from the group consisting of a starch based food package material, a protein based food package ~~materials~~ material, a natural fabric, a synthetic fabric, and a paper product.

31. (Currently amended) A method for fabricating a composite membrane on a surface of a substrate, comprising, based on the final weight of the composition:

mixing from about 1% to about 5% of beeswax, from about 7% to about 11% of cellulose acetate butyrate, and from about 86% to about 90% of a 1 to 4 mixture of acetone and butanone to give a composition;

heating the composition to a temperature of from about 60°C to about 70°C for a period of from about 10 minutes to about 20 minutes to obtain a uniform solution;

keeping the uniform solution at a temperature of from about 60°C to about 70°C for a period of from about 1 hour to about 5 hours to give a solution relatively free of air bubbles;

applying the solution relatively free of air bubbles on the surface of the substrate to give a pre-coated substrate;

heating the pre-coated substrate to a temperature of from about 60°C to about 75°C for a period of from about 1 minute to about 10 minutes to give a heated substrate; and
cooling the heated substrate to give a coated substrate.

32. (Original) The method of claim 31, further comprising heating the coated substrate to a temperature of from about 60°C to about 75°C for a period of from about 1 minute to about 7 minutes.

33. (Currently amended) The method of claim 31, wherein the substrate is selected from the group consisting of a starch based food package material, a protein based food package ~~materials~~ material, a natural fabric, a synthetic fabric, and a paper product.

34. (Currently amended) A method for controlling transmembrane transport of a liquid or a gas through a composite membrane, the composite membrane being fabricated from a ~~composition~~ solution, the ~~composition~~ solution comprising, based on the final weight of the ~~composition~~ solution, a water-insoluble polymer, in an amount of from about 3% to about 50%, and a water-insoluble wax, in an amount of from about 0.001% to about 20%, dissolved in a solvent, wherein the solution is non-aqueous, the method comprising:

adjusting the ratio of the water-insoluble wax to the water-insoluble polymer in the ~~composition~~ solution.

35. (Original) The method of claim 34, wherein the composite membrane is being coated on a substrate.

36. (Currently amended) The method of claim 35, wherein the substrate is selected from the group consisting of a starch based food package material, a protein based food package ~~materials~~ material, a natural fabric, a synthetic fabric, and a paper product.

37. (Currently amended) The method of claim ~~35~~ 34, wherein the liquid comprises water.

38. (Currently amended) The method of claim ~~35~~ 34, wherein the gas is selected from the group consisting of water vapor, nitrogen, and oxygen.